

## The Scottish Forest Alliance

by R Brown and C White

BP Amoco Exploration, Burnside Road, Farburn Industrial Estate, Dyce,  
Aberdeen AB21 7PB

Email: [Brownr23@bp.com](mailto:Brownr23@bp.com)

### Introduction

The Scottish Forest Alliance (SFA) is a novel collaboration established in 2001, by British Petroleum, Forest Enterprise, the Royal Society for the Protection of Birds Scotland and the Woodland Trust Scotland which will undertake sustainable forest management projects in Scotland. The aims to be achieved through the SFA collaboration are to:

- regenerate and expand native woodland in Scotland
- contribute towards UK targets for forest and woodland biodiversity
- promote social and economic gains for local communities
- seek to determine the contribution of the projects to carbon sequestration in Scotland

BP has committed £10 million over 10 years to 'pump-prime' the creation of significant new areas of native woodland in Scotland which will be managed in a sustainable way.

SFA projects operate on the following basis. Forest Enterprise, RSPB or Woodland Trust make available suitable land. BP provides the necessary funding for the investment in woodland development and establishment through planting and/or natural regeneration. FE, RSPB and WT provide the necessary planning, woodland management, ancillary skills and funding to set up and maintain the project. Other funding sources are sought by FE, RSPB and WT to increase that provided by BP for added value aspects of the projects such as provision of additional footpaths and other infrastructure.

Potential projects are selected by a representative Steering Group which analyses each proposal according to strict criteria covering additionality, biodiversity, location, native woodland, community involvement and benefit for the local economy. The SFA is an unusual grouping of NGO, public sector and private sector organisations. We have learned how to work together and that we have complementary skills, and are all gaining through sharing different experiences in an informal way.

The arrangement is governed by a legal agreement and the partners have committed to maintain the planted areas

as woodland for at least 200 years. BP entered into this arrangement in advance of the existence of a legal framework for carbon credits in the UK. In addition there is considerable international debate about whether carbon sequestered through forestry should be counted as offsets in assessing each country's success in meeting its Kyoto Protocol commitments.

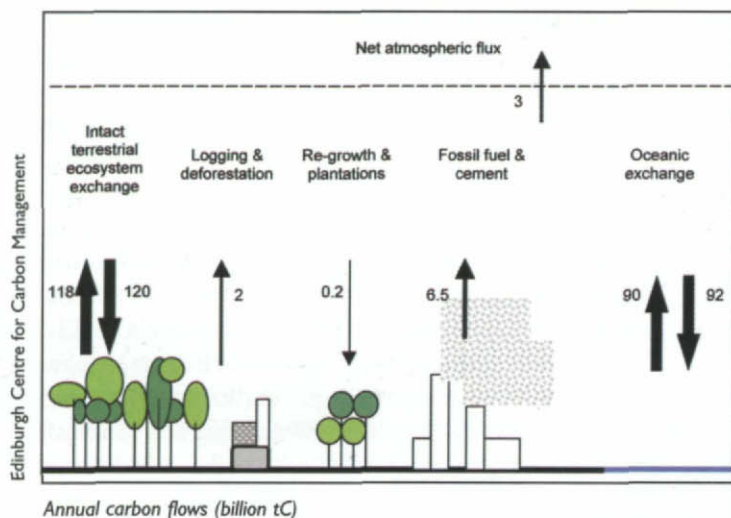
### BP's Response to the Challenge of Climate Change

This project has its origins in 1996 when BP concluded that the balance of evidence pointed to the fact that human activities were having an impact on the climate as a result of greenhouse gas emissions. BP, through a series of speeches by Lord Browne, BP Chief Executive, advocated precautionary action be taken to reduce greenhouse gas emissions. BP decided to lead by example and in 1998 a target was set to reduce their own emissions by 10% compared to those the company made in 1990. People throughout the organisation were encouraged to identify ways to reduce greenhouse gas emissions within their parts of the business and thousands of these projects were selected for implementation. In parallel, management systems were established to collect data on greenhouse gas emissions so that progress in achieving reductions could be assessed.

The 1992 Kyoto Agreement recognised that the global problem of climate change could best be tackled if individual countries reduced their emissions but also if arrangements were established which allowed investments to be made where the most cost effective reductions in emissions could be achieved on a global basis. The agreement established the framework for market mechanisms such as 'emission trading schemes' and 'joint implementation projects'. BP wanted to experiment with both of these mechanisms:

- An internal emissions trading scheme was established in 1998 as a pilot and as a company wide scheme in 1999. In 2001 the Business Units in BP traded 4.55 million tonnes CO<sub>2</sub> equivalent at an average price of \$39.6/te. The knowledge that has been developed on





how these schemes might operate on a wider scale is being shared with governments around the world. The internal scheme is being evolved to allow BP to become part of the UK and other countries' emissions trading schemes.

- Joint implementation programmes are where a country or company pay for reduction programmes in another country or company because much greater reductions can be delivered for the same investment.
- BP's participation in these programmes has been more limited although the Scottish Forest Alliance is one of BP's joint implementation projects.

## Role of Forests in the Carbon Cycle

How important are forests in the global carbon cycle? Plants and trees absorb carbon from the atmosphere by the process of photosynthesis. Carbon is returned to the atmosphere through respiration of plants, microbes, and animals and by natural and human-induced disturbances, such as fire. Carbon is also released to the atmosphere as carbon dioxide (CO<sub>2</sub>) upon combustion of fossil fuels.

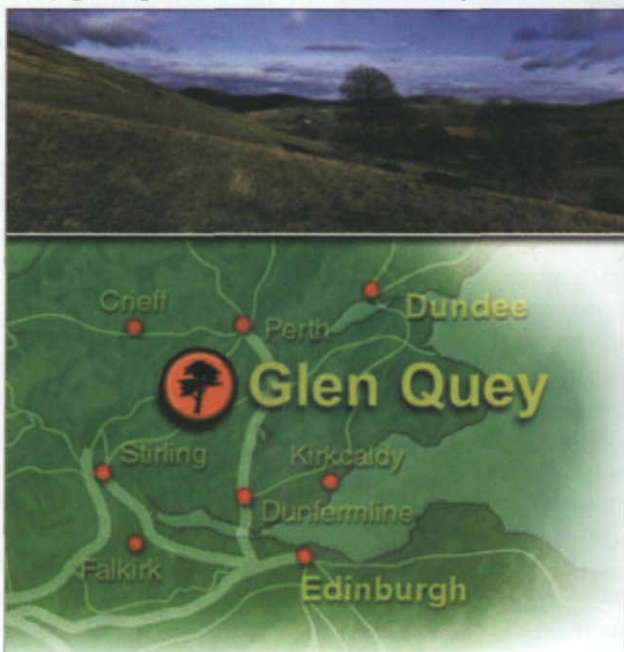
Forests are an important part of the global carbon cycle. The amount of carbon stored by forests is estimated at 1200 GtC, not only in wood, deadwood and vegetation above ground but much of it stored in the forest soils. The chart above shows the total annual terrestrial ecosystem exchange with the atmosphere is about 120GtC and of this some 80 GtC occurs in forests. This annual exchange between forest biosphere and atmosphere is orders of magnitude larger than the 3 GtC increases of CO<sub>2</sub> in the atmosphere each year which is causing climate change. Any steps taken over the next 100 years to increase forest cover and to reduce the amount of deforestation occurring will be positive in limiting increases in atmospheric CO<sub>2</sub> concentration.

## The SFA's Contribution

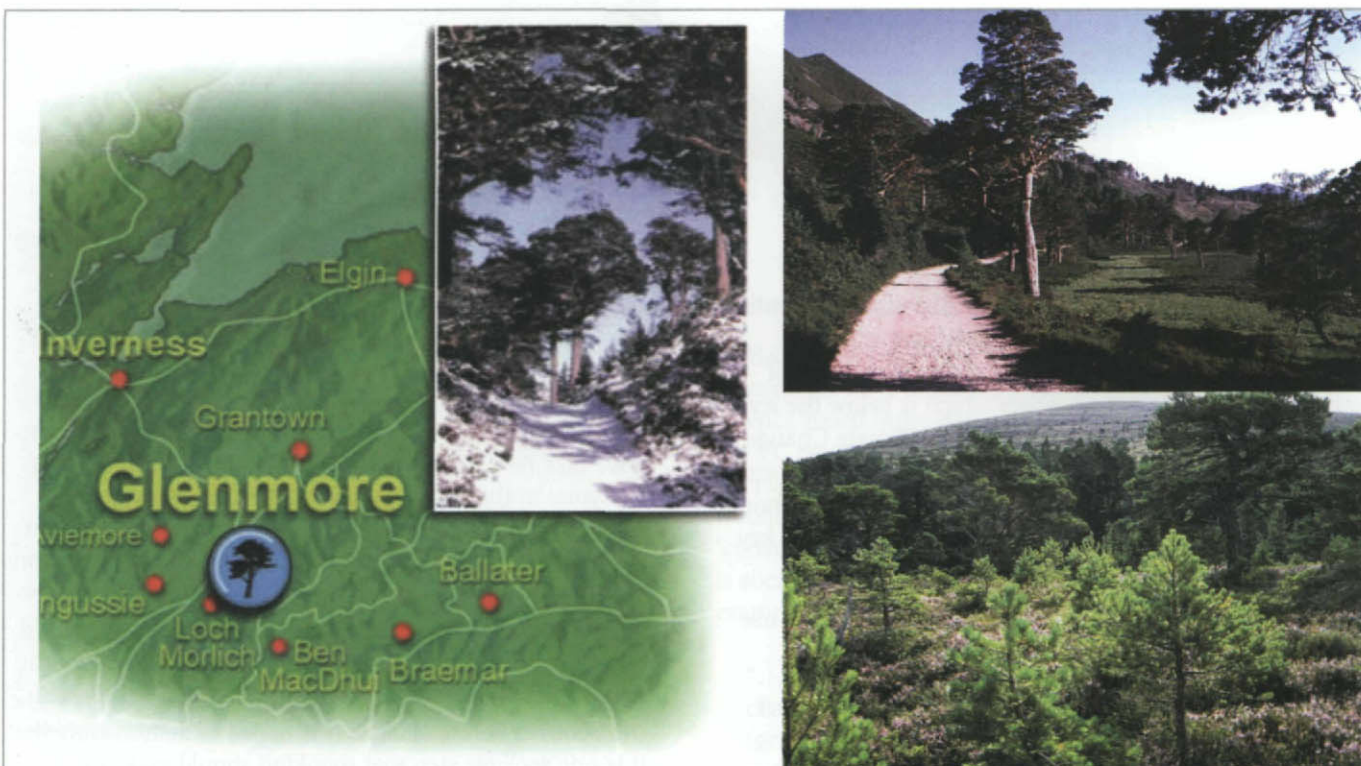
Information collected from the various SFA projects will help the partners understand the rate at which forests in Scotland capture carbon, the influence of location and tree

## Glen Quey Project

Glen Quey is a good example of a project focused on planting. In February 2001 the Woodland Trust Scotland acquired 383 hectares on the south facing slope of Innerdownie in the Ochils. The ground flora was predominantly grass with small areas of bracken and had been used for sheep grazing and, as such, the biodiversity of the area is limited. BP funding will be used to establish a predominantly upland birch and oak woodland over 300 hectares of the site with open areas being left for views, access and important open ground habitats. Ash/alder have been planted in the wetter areas. Establishing the woodland was contracted to RTS Limited and by spring 2002, 440,000 trees had been planted and were becoming established. The site has a long distance footpath running through which is utilised by walkers from Dollar and Castle Campbell to Glendevon. Rides have been left in the planting and grass on these paths is cut once a year.







The SFA project at Glenmore covers 1461 Ha and is an example of one with an emphasis on natural regeneration and biodiversity. Over the last 10 years Forest Enterprise have removed exotic conifer species from the core of the Glenmore Forest Park as the first step in restoring the ancient Caledonian pine forest, linking the existing remnants on neighbouring land to create a continuous area of Pinewood stretching from the River Feshie to Abernethy. BP funding through the Scottish Forest Alliance is being used to secure the expansion of the native pinewood. Careful management is leading to regeneration of the pinewood in the felled areas around Loch Morlich and the recreation of a natural treeline through the expansion of the native woodland onto the lower slopes of the Cairngorm mountains.

Glenmore forest, however, is more than just trees. The encouraging regeneration of the forest habitat is beginning to bear fruit in the biodiversity of the site, benefiting black grouse, capercaillie, crested tits, red squirrel, Scottish crossbill, wood ants and creeping ladies tresses.

A 3 km path linking Glenmore village with Coire Cas ski carpark has been built through the areas where the pinewood is regenerating and expanding providing people with mountain access without the use or interference of cars.

types and the complex balance between soil and vegetative carbon. BP will use information gained on the cost of capturing carbon in the SFA forests to help judge whether their internal reduction projects are good value for money.

The objectives of the SFA extend beyond carbon sequestration to include promoting biodiversity and social benefits. These have become the three pillars which underpin the projects with Forest Enterprise at Glenmore, Limerigg, Clashindarroch and Kinloch Hills, with RSPB at Abernethy and with Woodland Trust Scotland at Glen Finglas, Glen Quey and Glen Sherup. Some 6000 hectares of woodland are now being supported through the SFA funding. The sustainable forest management plans for each of the sites are consistent with the Scottish Forestry Strategy and in many cases will contribute to biodiversity action plans (BAPs) for particular species or habitats. All the sites are open to the public and as the forests are developed, footpaths will be created and in some cases car parking will be constructed.

## BP's Perspective on the Future

In May 2002 BP announced it had achieved the target of a 10% reduction in emissions from the 1990 baseline (which had actually required a 14% reduction from the 1998 emissions level) with emissions in 2001 totalling 80.5 million te CO<sub>2</sub> equivalent. Many thousands of projects were implemented throughout the world, some examples of these in the North Sea are: an additional compressor was installed on one platform to recover a low pressure gas stream which had been flared since the platform was installed, thereby reducing the amount of gas flared by 50%. On another platform modifications were made to operating practice to reduce the number of gas turbine generators operating at any time thereby substantially increasing the efficiency of electricity generation.

These have been BP's first steps in reducing their impact on the climate. When considering what BP should



do in the future, the compelling conclusion from scientific work on climate change is that the ultimate objective must be to achieve stabilisation at a maximum level of carbon dioxide in the atmosphere which is below the level of risk. The Intergovernmental Panel on Climate Change believe this will require global greenhouse gas emissions to be held below 1990 levels for several decades and should then be decreased over the rest of this century. Three key steps would help to achieve this objective:

- use energy more efficiently thus reducing energy use per unit of Gross Domestic Product
- use lower carbon energy thus emitting less CO<sub>2</sub> per unit of energy consumed
- capture and store CO<sub>2</sub> until renewable or zero carbon energy is economic.

If stabilisation is the objective what is the appropriate contribution from one company? BP supplies just 1.5% of the world's energy and 3% of the world's oil and gas so we cannot do everything but do want to play our part. BP is shaping its business to deliver improvements in each of these areas:

- a target has been set to improve energy efficiency in our operations by 10 – 15% by 2012.
- the carbon content of the products sold will be reduced by increasing the proportion of gas to higher carbon fuels such as coal and heavy oils. Gas projects are under development in various parts of the world that will supply markets that currently obtain energy from coal or other higher carbon fuels. Since 1990 the energy mix supplied to BP customers contains 6% less carbon per unit of energy.
- Various pilot schemes are being run to capture CO<sub>2</sub> including one in Alaska to capture CO<sub>2</sub> from exhausts of engines driving gas compressors and then inject it into oil reservoirs under the ground.
- The Scottish Forest Alliance is another of these sequestration projects.

BP is also actively developing renewable energy. BP solar business manufactures photovoltaic cells, which make electricity directly from sunlight, is one of the world's largest producers of these cells. A 40% growth in the business in 2002 is anticipated. In addition to supplying clean hydrocarbon fuels, which reduce emissions of

sulphur and other pollutants, BP is supporting the development of hydrogen powered vehicles by supplying hydrogen fuel to experimental fuel cell buses which are operating in various cities around the world.

Climate change is a serious risk to the world we live in if we take no action. There are no simple solutions but if everyone in the world takes steps to use energy more efficiently and moves away from fuels with a high carbon content it will reduce the rate at which CO<sub>2</sub> concentrations are rising in the atmosphere until alternative renewable energy sources can be developed and become widely used. Planting of trees will not be able to sequester much of the CO<sub>2</sub> emitted from combustion of fossil fuels but through the Scottish Forest Alliance it is hoped to demonstrate that it is one sensible step that mankind should make in addressing this serious issue.

**SFA receive 2002 Hollis Award**

The SFA was awarded the 2002 Award for the most effective Environment Sponsorship in the UK. The award was made by Hollis Publishing.

**Further Information**

For more information on the Scottish Forest Alliance visit [www.scottishforestalliance.org.uk](http://www.scottishforestalliance.org.uk) or contact any of the Alliance partners:

Alan Stevenson, Forest Enterprise	0131 314 6300
Martin Auld, RSPB	01224 624824
Angela Douglas, Woodland Trust	01764 662554
Sir Michael Strang-Steel, Steering Group member	01750 21766
Peter Mackay, Steering Group member	0131 337 2830